THE TOOL COMPANY

BATTERY CHARGER / STARTER & TESTER

■ STOCK No.66801 ■ PART No.BCS60

• INSTRUCTIONS •

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS TOOL.

GENERAL INFORMATION

This manual has been compiled by Draper Tools and is an integrated part of the equipment, which should be kept with the product.

This manual describes the purpose for which this tool has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation of the machine, before performing any kind of adjustment to the machine, and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both machine and operator safety, together with longer life of the tool itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the machine.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tool policy of continuous improvement determines the right to make modifications without prior warning.

BATTERY CHARGER / STARTER & TESTER

■ STOCK No.66801 ■ PART No.BCS60

CONTENTS:

Page No.

Contents/Declaration 1
Specification/Guarantee.....2
Safety Features 3
General Safety Instructions 4
Power Supply 5
Getting To Know Your Battery Charger 6
Operation & Use 7-10

DECLARATION OF CONFORMITY

We
Draper Tools Ltd. Hursley Road, Chandler's Ford, Eastleigh, Hampshire.
SO53 1YF. England.

Declare under our sole responsibility that the product:

Stock No. :- 66801.

Part No. :- BCS60.

Description:- Battery Charger.

To which this declaration relates is in conformity with the following directive(s) 89/336EEC & 73/23EEC.

With reference to: EN60335-1:1994/A11/A1/A2,A13,A14,A15, EN60335-2-29:1996/A11, EN55014-1:1993/A1/A2, EN55014-2:1997, EN61000-3-2:1995/A12,A1,A2,A14 & EN61000-3-3:1995.

JOHN DRAPER
Managing Director

Issue Date:
05/09/2001

SPECIFICATION

The Draper Tools policy of continuous improvement determines the right to change specification without notice.

Stock No.	66801
Part No.	BCS60
Supply Voltage	230v~50hz
Charging Voltage	12v
Input Power	350w
No. Charging Steps	3
Start Charging Current	60A
Effective Charging Current (12v)	26A
Av Charging Current (EN60335)	17A
For batteries rated between	30Ah-135Ah
Dimensions	250x150x135mm
Weight	4.5kg

WARNING:ALWAYS WEAR HAND AND EYE PROTECTION WHEN HANDLING LEAD ACID BATTERIES.

GUARANTEE

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase.

Should the machine develop any fault, please return the complete tool to your nearest authorized warranty repair agent or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England. Telephone: (023) 8026 6355.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the 12 month period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited

GENERAL SAFETY INSTRUCTIONS FOR BATTERY CHARGERS

WARNING
Please read the following instructions carefully, failure to do so could lead to serious personal injury.

IMPORTANT
Draper Tools Limited recommends that this machine should not be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us in writing and we will advise you.

1. WARNING - RISK OF EXPLOSIVE GASES

a. WORKING IN THE VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS, BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF UTMOST IMPORTANT, IF YOU HAVE ANY DOUBT, THAT EACH TIME BEFORE USING THE CHARGER, YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS.

b. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery. Review warning marks on all these products and on the engine.

2. PERSONAL PRECAUTIONS:

a. When working near a lead-acid battery, someone should be within range of your voice, close enough to come to your aid.

b. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.

c. Wear complete eye, hand and clothing protection. Avoid touching eyes when working with batteries.

d. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eyes, immediately flood eye with cool, clean running water for at least 15 minutes and get medical attention immediately.

e. NEVER smoke or allow a spark or flame in vicinity of battery or engine.

f. Be extra cautious to reduce risk of dropping a metal tool onto a battery. It could spark or short circuit the battery or, any other electrical part possibly causing an explosion.

g. When working with a lead-acid battery, remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current high enough to weld a ring, or the like to metal, which may cause severe burns.

h. Use the battery charger for charging **"lead-acid batteries only"**. Do not use for charging dry-cell or Ni-Cad batteries that are commonly used with home appliances. For example, radios, torches etc. These batteries may explode and cause injury to persons and damage to property. **Gel Filled and other Sealed Batteries use BCI model only (See page 9 for further information).**

i. NEVER charge or boost and frozen battery.

j. NEVER allow clamps to touch one another or to contact the same piece of metal to prevent arcing.

3. OTHER IMPORTANT SAFETY INSTRUCTIONS

a. Do not use the charger in damp or wet conditions.

b. Keep out of reach of children.

c. Do not submerge in water.

d. Do not operate near flammables such as petrol, paraffin, or thinners etc.

e. If the charger receives a sharp blow or is otherwise damaged in any way, do not disassemble. Have it checked by a qualified service person. Return to source.

SAFETY FEATURES

The BSC60 battery charger is fitted with the following safety features:

1. Polarity inversion protection.

2. Short circuit overload protection.

3. Thermal overload protection (Two Auto Reset Fuses).

Explanation of Symbols Featured on Rating Label

This symbol indicates machine is for indoor use only.

Indication that the machine is double insulated.

This is an indication that the machine is fitted with automatic overload protection.

Note: After an extended period of charging especially in the "fast" charge mode, the thermal cut-out protection may be activated. This is to allow the charger a sufficient amount of time to cool down (approx. 20mins) once the charger has sufficiently cooled, then charging will recommence automatically.

POWER SUPPLY

CONNECTING YOUR MACHINE TO THE POWER SUPPLY: (230V)

To eliminate the possibility of an electric shock your machine has been fitted with a BS approved, non rewireable moulded plug and cable which incorporates a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced an ASTA approved BS1362 fuse must be used of the same rating, marked thus ASTA .

The fuse cover is detachable, never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is of the same colour as that visible on the pin face of the plug (i.e. red). Fuse covers are available from your Draper Tools stockist.

If the fitted plug is not suitable, it should be cut off and destroyed. *The end of the cable should now be suitably prepared and the correct type of plug fitted. See below.

*WARNING:

A plug with bare flexible wires exposed is hazardous if engaged in a live power socket outlet.

WARNING: THIS APPLIANCE IS DOUBLE INSULATED.

Blue – Neutral, Brown – Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black or blue.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red or brown.

GETTING TO KNOW YOUR BATTERY CHARGER

Fig.1.

Fig.1.

1. Charging unit.
2. Large insulated battery clips.
3. Normal fast/ start switch.
4. LED display.
5. BS non-rewireable moulded plug and cable.
6. Carry handle.

OPERATION & USE

BATTERY INFORMATION
Before procceeding with the charging of the battery ensure that the battery to be charged is within the recommended amperage range for the charger (see table below).

PART NO.	RECOMMENDED MIN. Ah.	RECOMMENDED MAX. Ah.
BCS60	30Ah	135Ah

If the battery amperage rating is not stated or you are unsure about the rating please see the table below for some typical ratings.

EXAMPLES OF TYPICAL VEHICLE BATTERY Ah RATINGS (For guidance only).

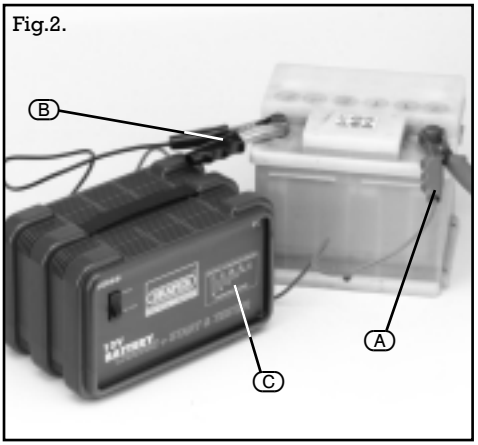
ENGINE CAPACITY					
<1300cc	5 - 15Ah	15 - 30Ah	35 - 45Ah	-	60 - 110Ah
>1300cc	-	-	45 - 65Ah	45 - 65Ah	60 - 110Ah
Diesel	-	-	60 - 90Ah	60 - 90Ah	60 - 110Ah

OPERATION & USE

BATTERY TESTING (FIG 2):
To use the battery testing facility on the charger. Firstly ensure the charger is disconnected from the mains power supply (230V AC). Connect the positive charging lead (A) (RED) to the positive terminal connection (marked + or P) on the battery. Connect the negative charging lead (B) (BLACK) to the negative terminal on the battery (marked - or N).

Once this is done the lights on the LED display (C) will indicate the state of the battery. The number of lights lit will depend on the condition of the battery (i.e. if two lights are lit, the battery is at approximately 25% of its capacity and needs charging. If four lights are lit, the battery is at approximately its full capacity). If your battery requires charging please refer to the "Charging Your Battery section" on page 10.

Fig.2.



USING THE "START" OPTION ON YOUR CHARGER
The BCS60 model is fitted with a "start" facility. This option together with the vehicles flat battery, can deliver a starting current for approx 10 seconds suitable enough to start the vehicle engine.

NOTE:If the battery is in a flat state, then it may be required that the battery is charged for a few minutes using the "fast" option (for charging instructions see page 10). This charge is beneficial because when using the start option all the current from the charger goes into starting the vehicle and not to the battery. It also enables the battery to contribute to the starting current.

Before connecting the charger to the vehicle, firstly make sure the charger is disconnected from the mains supply (230V AC). Ensure that all electrical loads on the vehicle are switched off and that the vehicle is placed in "Neutral" (Park for Automatic Transmission). Connect the positive (RED) battery clip to the positive battery terminal (marked + or P). Attach the negative (BLACK) battery clip to the ground on either the engine or chassis, but make sure it is away from fuel lines and any moving parts. Only at this point connect the charger to the mains supply (230V AC). Once the charger is connected select the "Fast/Start" option on the charger and then proceed to crank the engine for several seconds.

If the jump start is successful then the internal cut out of the "Start" option will come into operation. If the engine has not started then proceed to crank the engine again but if the engine still hasn't started after two or three attempts then leave the charger connected for a period of approximately 5 mins on the "Fast/Start" setting and then proceed to try again.

NOTE:If the engine does not start and the internal cut out is not activated in a few seconds, this indicates that there is a possible fault in the vehicle starting system.

OPERATION & USE

BEFORE CHARGING YOUR BATTERY
NOTE: We recommend that the battery is disconnected from the vehicle. This will avoid any possible damage to the alternator. Loss of codes for audio and security systems can be avoided by connecting a Draper Memory Saver (Part No.CMS1 - Stock No.38330) or similar product before disconnecting the battery. Check the car battery voltage matches that of the charger.

Before connecting the battery charger to the battery ensure that the charger and battery are on a level surface. If the battery cell filler caps loosen or remove them to assist the escape of charging gases. (If the battery being charged is a Maintenance Free, Gel Filled or Sealed battery refer to the appropriate section below). Once the cell caps have been loosened, it is advisable to check the level of electrolyte. If the level is below the mark on the under side of the battery, this should be topped up using distilled water (Under no circumstances use tap water).

MAINTENANCE FREE BATTERIES
(Low Maintenance Batteries)
These batteries often have cells with no filler caps and therefore cannot be topped up with distilled water so we strongly recommend the use of a Draper Automatic Charger (BC8A or BCI) for charging these types of batteries. However if using Part No.BCS60 charging these batteries, it is important that during charging they are not allowed to "gas" because this will reduce the level of electrolyte which cannot be replaced. You should take extra care when the battery reaches "Full" during charging and do not use the "Fast" charge option on such batteries.

GEL FILLED AND OTHER SEALED BATTERIES (Use BCI model Only)
This type of battery normally contains gel electrolyte and may be referred to as "Dry Fit". They are most commonly used in applications such as, electric golf trolleys, mobility wheelchairs, camping, caravanning and marine activities etc. To charge this type of battery we strongly advise you only use the Draper intelligent Charger (BCI), which is fitted with temperature sensor compensation which allows continuous adjustment of the unsupervised charge to ovoid overcharging and loss of electrolyte by 'gassing' which can shorten the life of the battery.

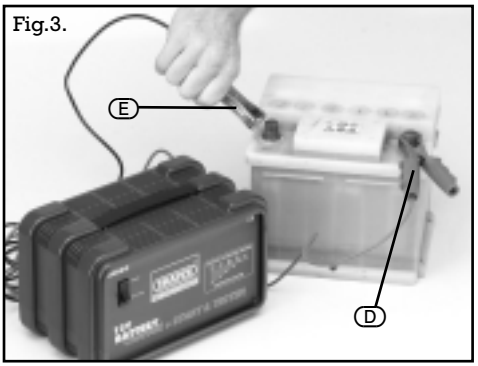
OPERATION & USE

CHARGING YOUR BATTERY
NOTE: Whilst carrying out the actions ensure the battery charger is **NOT** connected to the mains supply (230V AC).

While connected to the vehicle
If you intend to charge the battery whilst it is still connected to the vehicle, make sure that all electrical loads are switched off. Connect the appropriate charger lead to the battery power (This is usually the positive (RED) lead) and connect the other lead (BLACK) to ground on either the chassis or the engine away from any fuel lines or the battery vents.

When disconnected from the vehicle (Fig 3):
Connect the positive charging lead (D) (RED) to the positive terminal connection on the battery (marked + or P). Connect the negative charging lead (E) (BLACK) to the negative battery terminal connection (marked - or N).

Fig.3.



Once both battery clips are secure, select the correct charge setting, either "Fast" or "Normal" by adjusting the option switch (F) accordingly (Fig 4).

NOTE: To ensure a longer battery life, it is advisable to select the "Normal" charge facility.

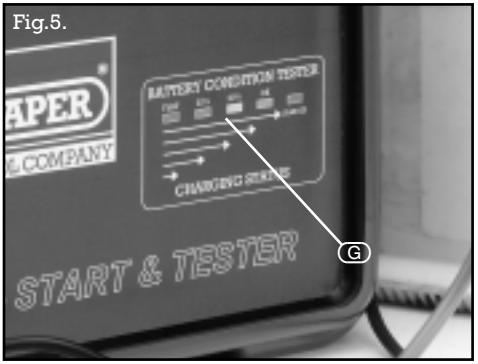
Fig.4.

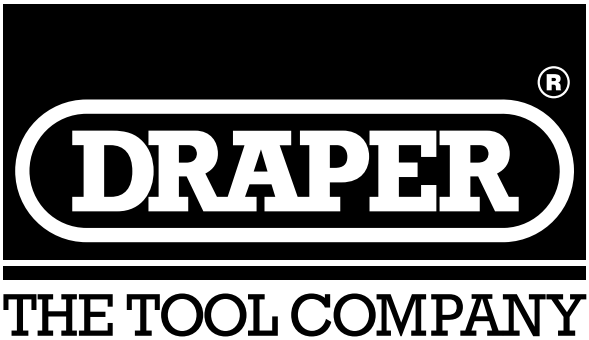
After the correct charge setting has been selected, only at this point should the charger be connected to the mains supply (230V AC). Once connected, the lights on the LED display (G) will be lit, the number of lights lit depends on the condition of the battery (Fig 5).

During charging the status of the battery charge can be monitored on the LED display. When the charging light on the display is lit this indicates the battery is fully charged.

Once the charging has been completed switch off the mains supply (230V AC) before removing the charger clips from the battery terminals. Retighten cell caps if necessary (It is advisable to take extreme care and please read Personal Precautions on page 3).

Fig.5.





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YOUR DRAPER STOCKIST

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